CSMISS IT Seminar Series

Analysis of Computer Vulnerabilities

by

Dr. Matthew Bishop

Associate Professor,
Dept. of Computer Science,
University of California
at Davis

Tuesday,
August 21, 2001
12:00 – 1:00 P.M.
Bldg. 198-102

Computer vulnerabilities are widespread, and growing, as more systems are developed and deployed. In this talk, Dr. Bishop will review the history of computer vulnerabilities and several attempts to classify them in ways that would allow analysts to uncover unknown vulnerabilities. He will also present a method that has elements of formal specification and verification, but can be applied in a non-formal environment. Lastly, he will discuss its relationship to the earlier classification schemes, and how it might provide guidance in locating new flaws, as well as avoiding their introduction.

Matthew A. Bishop received his Ph.D. in computer science in 1984 from Purdue University, where he specialized in computer security. He was a research scientist at the Research Institute of Advanced Computer Science, and was on the faculty at Dartmouth College before joining the Department of Computer Science at the University of California at Davis. Dr. Bishop's main research area is the analysis of vulnerabilities in computer systems, including modeling them, building tools to detect vulnerabilities, and ameliorating or eliminating them. This includes detecting and handling all types of malicious logic, especially computer worms and computer viruses. He is also active in the areas of network security, the study of denial of service attacks and defenses, policy modelling, and formal modelling of access control. He also studies the issue of trust as an underpinning for security policies, procedures, and mechanisms. Bishop is well known in the Internet community as an expert in network and computer security and security programming. He is on the advisory board of the System Administrators and Network Security (SANS) organization.

CSMISS
Center for Space Mission Information and Software Systems

CSMISS IT Seminar Series:
Highlighting Information Technology, methodologies, tools, and best practices used in industry and academia.